

Installation Instructions

Fan Power Card Replacement for E1h–E4h Drives

Description

The fan power card replacement kit contains all components required to install the fan power card in E1h–E4h drives.

Kit Part Numbers

This installation instruction describes replacement procedures for the following spare part kit.

Kit number	Kit description
176F6625	Power card for E1h–E4h drives

Table 1.1 Part Number for Power Card Replacement Kit

Safety Instructions

Only qualified, Danfoss authorized personnel are allowed to install the parts described in these installation instructions. Disassembly and reassembly of the drive must be done in accordance with the corresponding *service manual*.

⚠ WARNING

ELECTRICAL SHOCK HAZARD

VLT® series drives contain dangerous voltages when connected to mains voltage. Improper installation, and installing or servicing with power connected, can cause death, serious injury, or equipment failure.

To avoid death, serious injury, or equipment failure:

- Only use qualified electricians for the installation.
- Disconnect the drive from all power sources before installation or service.
- Treat the drive as live whenever the mains voltage is connected.
- Follow the guidelines in these instructions and local electrical safety codes.

⚠ WARNING

DISCHARGE TIME

The drive contains DC-link capacitors, which can remain charged even when the drive is not powered. High voltage can be present even when the warning LED indicator lights are off. Failure to wait 40 minutes after power has been removed before performing service or repair work can result in death or serious injury.

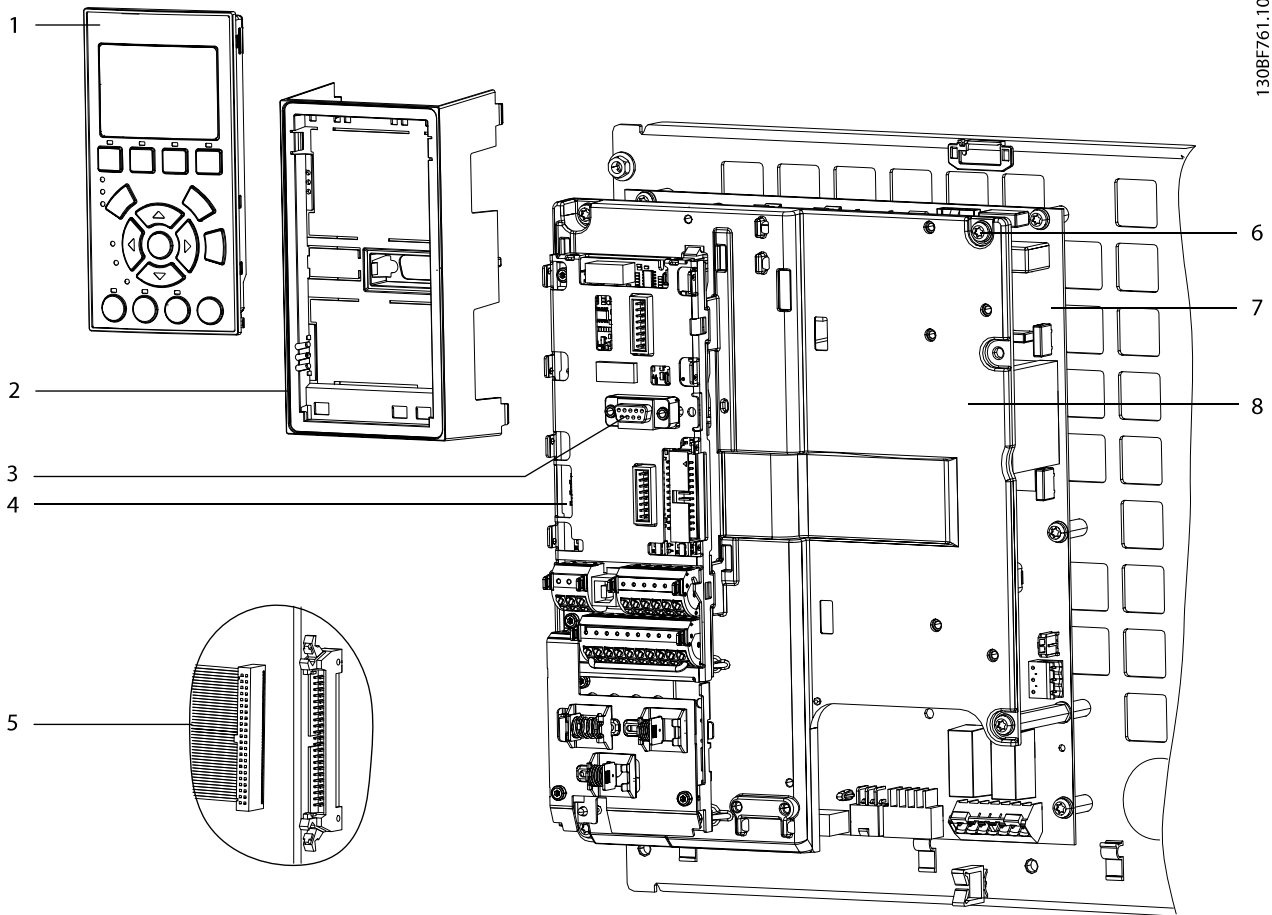
- Stop the motor.
- Disconnect AC mains and remote DC-link power supplies, including battery back-ups, UPS, and DC-link connections to other drives.
- Disconnect or lock PM motor.
- Wait 40 minutes for capacitors to discharge fully.
- Before performing any service or repair work, use an appropriate voltage measuring device to make sure that the capacitors are fully discharged.

NOTICE

ELECTROSTATIC DISCHARGE

Follow proper ESD precautions to prevent damage to sensitive components.

Installation Instructions



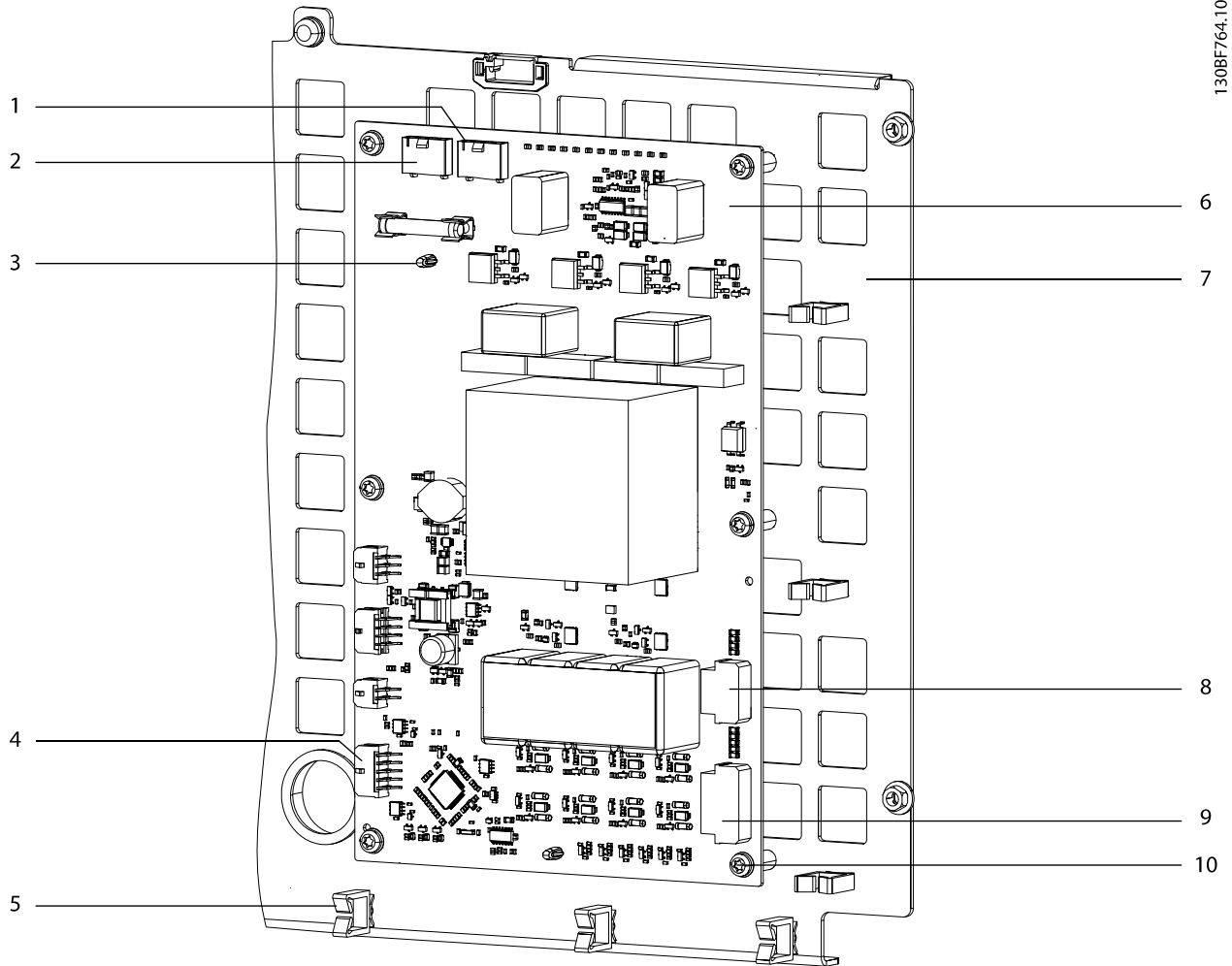
1	LCP	5	Ribbon cable and connector (under control card mounting plate)
2	LCP cradle	6	Screws (T20)
3	LCP cable connector	7	Power card
4	Control card	8	Control card mounting plate

Illustration 1.1 LCP and Control Card Mounting Plate

Removing the Control Card Mounting Plate

To remove the control card mounting plate, use the following steps. Refer to *Illustration 1.1*.

1. Open the front panel door or remove the front cover, depending on the type of enclosure.
2. In IP21/IP54 units, unplug the LCP cable.
3. Unplug the USB connector, if present.
4. Remove any customer control wiring from the control card and option cards.
5. Remove 4 screws (T20) from the corners of the control card mounting plate.
6. Unplug the ribbon cable connecting the control card and power card. To release the cable, press out on the clasps at each end of the cable connector on the power card.



1	MK802 (to DC power)	6	Fan power card
2	MK803 (to power card MK902)	7	Power card mounting plate
3	Plastic standoff	8	MK602 (to door/top fans)
4	MK1200 (to inrush card and power card MK105)	9	MK600 (to heat sink fans)
5	Cable retaining clip	10	Screw (T20)

Illustration 1.2 Fan Power Card

Removing the Fan Power Card

To remove the fan power card, use the following steps. Refer to *Illustration 1.2*.

1. Unplug the cables from the following fan power card connectors:
 - 1a MK600
 - 1b MK602
 - 1c MK802
 - 1d MK803
 - 1e MK1200
2. Release the cables from the cable retaining clips.
3. Remove 6 screws (T20).
4. Remove the fan power card from the 4 plastic standoffs, pinching the standoff tips to compress them.
5. Remove the fan power card from the drive and discard it.

Installing the Fan Power Card

To install the fan power card, use the following steps. Refer to *Illustration 1.2*.

NOTICE

UNIQUE TORQUE VALUES

Tighten screws (T20) to the non-standard torque value specified in the following steps. Tighten all other fasteners according to standard torque values found in the *service guide*.

1. Position the fan power card on the power card mounting plate, and press onto the 4 plastic standoffs.
2. Fasten 6 screws (T20). Torque to 2.27 Nm (20.1 lb-in).
3. Attach the cables to the following fan power card connectors:
 - 3a MK600
 - 3b MK602
 - 3c MK802
 - 3d MK803
 - 3e MK1200
4. Route the cables through the cable retaining clips on the mounting plate.

Replacing the Control Card Mounting Plate

To replace the control card mounting plate, use the following steps. Refer to *Illustration 1.1*.

NOTICE

UNIQUE TORQUE VALUES

Tighten screws (T20) to the unique torque value specified in the following steps. Tighten all other fasteners according to the general torque tightening values listed in the *service guide*.

1. Attach the ribbon cable connecting the control card to the power card. Click shut the clasps on each end of the cable connector.
2. Secure 4 screws (T20) at the corners of the control card mounting plate. Torque to 2.27 Nm (20.1 lb-in).
3. Reconnect any customer control wiring to the control card and option cards.
4. In IP21/IP54 units, connect the LCP cable.
5. Connect the USB, if present.
6. Reattach the front cover, if present depending on the enclosure.

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